NASA Procedural Requirements

NPR 8705.6B
Effective Date: May 24, 2011
Expiration Date: November 24, 2016

COMPLIANCE IS MANDATORY

Printable Format (PDF)

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Subject: Safety and Mission Assurance (SMA) Audits, Reviews, and Assessments

Responsible Office: Office of Safety and Mission Assurance

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Chapter 1. Program Overview

1.1 Introduction

1.1.1 Per NPD 8700.1, NASA Policy for Safety and Mission Success, it is NASA policy to verify and validate life-cycle implementation of the SMA processes and any related safety and mission success requirements through ongoing surveillance of program, project, and contractor processes. Also, it is NASA policy to certify the safety and operational readiness of hazardous or mission critical hardware and software (including flight systems, support equipment, facilities/operations, and ground-based systems) through a process of formal review of the compiled validation and verification information.

1.1.2 NPD 1000.3 assigns responsibility to the Chief, Safety and Mission Assurance to ensure the incorporation and fulfillment of SMA requirements established for NASA programs and institutions through the structured application of SMA Technical Authority (SMA TA) and to verify the effectiveness of SMA requirements, activities, and processes.

1.1.3 This NPR outlines procedures for audits, reviews, and assessments to verify compliance with NASA SMA requirements, as required by NPD 8700.1, NASA Policy for Safety and Mission Success and NPD 1000.3, The NASA Organization, and the applicable Federal, State, and local safety and health statutes and regulations.

1.1.4 Per NPD 1210.2, NASA Surveys, Audits, and Reviews Policy, it is NASA policy to establish minimum criteria for the conduct of Headquarters-initiated audits and reviews of NASA activities in such a way that the surveys, audits, and reviews are value-added and effective in support of the Agency's mission.

1.2 Objectives

1.2.1 This NPR provides requirements for:

a. Verifying each NASA Center's, Component Facility's, and JPL's (an FFRDC) implementation of, and compliance with, applicable Federal, State, and local safety and health statutes and regulations and NASA SMA requirements. Note: The term "NASA Center" will refer to the NASA Center, Component Facility, and the Institutional part of JPL (an FFRDC) as a Facility and Real Property, hereafter, in the applicability of this NPR.

b. Verifying each program/project's, implementation of, and compliance with, applicable Federal, State, and local safety and health statutes and regulations and NASA SMA requirements.

c. Supporting the Agency's determination of readiness to test, operate, fly, launch, or recover mission and research equipment.

1.2.2 The principal chapters of this NPR provide requirements for the Agency's SMA audit, assessment, and review processes described below. Detailed information, such as detailed processes, sample timelines, sample audit guides, sample Corrective Action Plan (CAP) templates, and other background information, can be found on the NASA Safety Center Audits and Assessments Web site at http://nsc.nasa.gov/auditsassessments/.

a. Institutional/Facility/Operational (IFO) Safety Audit process. This process provides independent verification that institutions, facilities, and operations at each NASA Center are in compliance with the applicable IFO safety

requirements, including applicable Federal, State, and local safety and health statutes and regulations and NASA SMA requirements.

b. Quality Audit, Assessment, and Review (QAAR) process. This process provides independent verification that each NASA Center, program, and project is in compliance with the applicable NASA SMA quality assurance requirements.

c. Requirement Flow Down and SMA Engineering Design Audits and Assessments (REDAA) process. This process: 1) provides independent verification of the flow down of SMA requirements to the NASA Centers, programs, and projects including requirements flow down to NASA contracts; and 2) provides independent evaluation of the NASA SMA requirements implemented on programs and projects for system safety, reliability and maintainability (R&M), risk analysis, and risk management.

Note: The IFO Safety Audit, the QAAR, and the REDAA are collectively referred to as SMA audits and assessments (see Chapter 2).

d. Safety and Mission Success Review (SMSR) process. The SMSR process prepares Agency safety and engineering management to participate in program or project management pre-operations or major milestone review forums. The SMSR provides the knowledge, visibility, and understanding necessary for senior Agency safety and engineering management to concur or nonconcur with program decisions to proceed.

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